CLAIMS

1. An electric motor, comprising:

a plurality of motor sections, wherein the plurality of motor sections are mechanically and electrically coupleable to form a motor of a desired length, each motor section including a modular rotor section and a modular stator section.

2. The electric motor as recited in claim 1, wherein the plurality of motor sections includes:

a first motor section having a first rotor section and a first stator section; and

a second motor section having a second rotor section coupleable to the first rotor section and a second stator section electrically coupleable to the first stator section, wherein electricity flowing through the first and second stator sections produces a magnetic field to impart rotative motion in the rotor.

3. The electric motor as recited in claim 1, wherein the plurality of motor sections are fluidicly coupleable to allow fluid to pass between the plurality of motor sections.

4. The electric motor as recited in claim 2, wherein the first motor section and the second motor section are fluidicly coupleable to allow fluid to pass between the first and second motor sections.

5. The electric motor as recited in claim 2, wherein the second motor section is fluidicly coupleable to an external device.

6. The electric motor as recited in claim 2, further comprising a seal disposed between the first motor section end and the second motor section.

7. The electric motor as recited in claim 1, wherein at least one modular stator section has a plurality of conductors terminating at a plurality of corresponding protrusions.

8. The electric motor as recited in claim 7, wherein at least one other modular stator section includes a plurality of conductive elements configured for engagement with the plurality of corresponding protrusions when the plurality of motor sections are mechanically coupled.

9. The electric motor as recited in claim 7 wherein the plurality of conductive elements each include a hollow receptacle configured to receive a corresponding protrusion.

10. The electric motor as recited in claim 2, further comprising a separate coupler disposed between the first and second motor sections to provide a mechanical and electrical coupling.

11. The electric motor as recited in claim 1, wherein at least one of the plurality of motor sections includes an outer housing having a threaded collar designed to engage an outer housing of the next sequential motor section.

12. A submersible pumping system, comprising:

a submersible electric motor, having a plurality of motor sections, wherein the plurality of motor sections are mechanically and electrically coupleable to form a motor of a desired length, each motor section including a modular rotor section coupleable to a next adjacent modular rotor section of a next adjacent motor section to form a rotor; and

a submersible pump drivingly coupled to the rotor of the submersible electric motor.

13. The submersible electric motor as recited in claim 12, wherein the plurality of motor sections includes:

a first motor section having a first rotor section and a first stator section; and

a second motor section having a second rotor section coupleable to the first rotor section and a second stator section electrically coupleable to the first stator section, wherein electricity flowing through the first and second stator sections produces a magnetic field to impart rotative motion in the rotor.

14. The system as recited in claim 12, further comprising a motor protector, wherein the plurality of motor sections are fluidicly coupleable to allow fluid to pass between the first motor section and the motor protector.

15. A method for assembling a rotary electric motor, comprising:

manufacturing a plurality of motor sections, each having a modular stator section and a modular rotor

determining a desired motor horsepower for a given application; and

coupling a predetermined number of the plurality of motor sections to obtain the desired motor horsepower.

16. The method as recited in claim 15, further comprising forming a plurality of longitudinal slots through each modular stator and disposing an electrical conductor through each longitudinal slot.

17. The method as recited in claim 16, further comprising forming a connector on each rotor section to permit engagement with a next sequential rotor section.

18. The method as recited in claim 16, further comprising each electrical conductor having a terminal plug connector for engagement with a corresponding electrical conductor of a next sequential modular stator section.

19. The method as recited in claim 18, wherein forming includes disposing each conductive element in a polymeric insulating material.